

Continuous production of crosslinked fine particles of polymer gel

5 Abstract

A process for continuous production of crosslinked fine particles of polymer gel by copolymerizing

10 a) water-soluble monoethylenically unsaturated monomers,

b) from 0.001 to 5 mol% based on the monomers (a) of monomers containing at least two ethylenically unsaturated double bonds, and

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c) from 0 to 20 mol% based on the monomers (a) of water-insoluble monoethylenically unsaturated monomers

in from 20 to 80% by weight aqueous solution in the presence of
20 an initiator at from 0 to 140°C by feeding the aqueous solution of the monomers together with the initiator and an inert gas continuously into a mixing kneader having at least two axially parallel rotating shafts equipped with a plurality of kneading and transporting elements which convey the substances introduced
25 at the upstream end of the mixing kneader in the axial direction toward the downstream end of the mixer, comprises the fraction of heat being removed by evaporation of water from the reaction mixture being not less than 5% of the heat of reaction and the fraction of heat being removed by product discharge being not
30 less than 25% of the heat of reaction and the rest of the heat being removed via cooling of the reactor walls.

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